

# Watershed Based Decision Making: Just Thinking Out Loud Here....

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Resources

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## Some Drivers

- Antidegradation - Assimilative Capacity
- Nutrients
- Point Source Interaction
- Point/NonPoint Source

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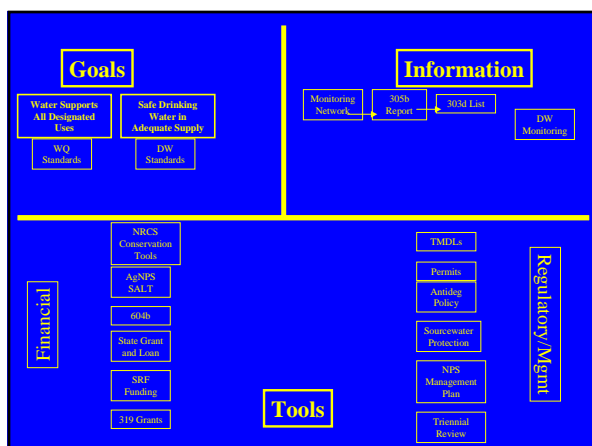
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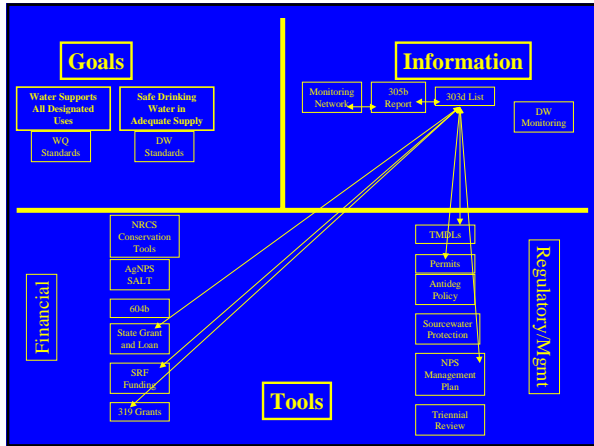
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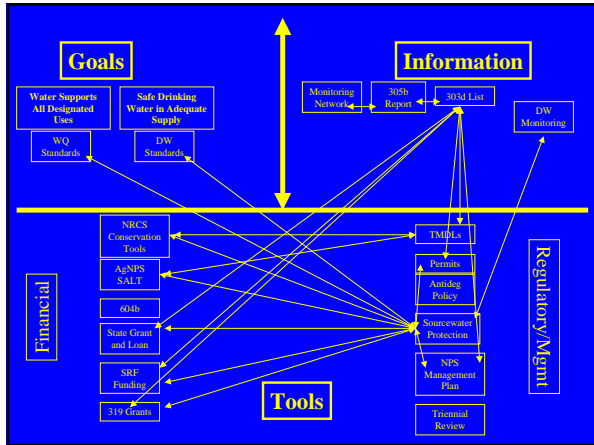
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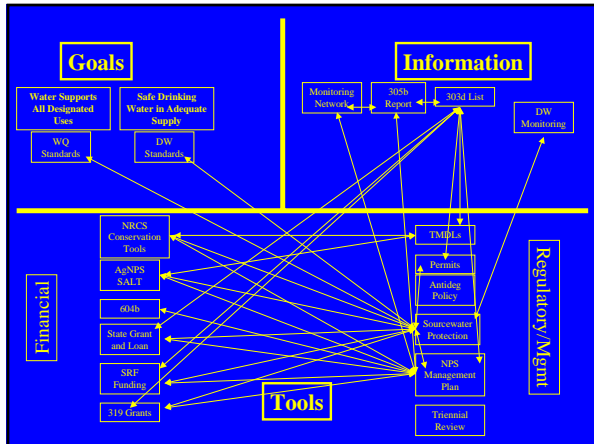
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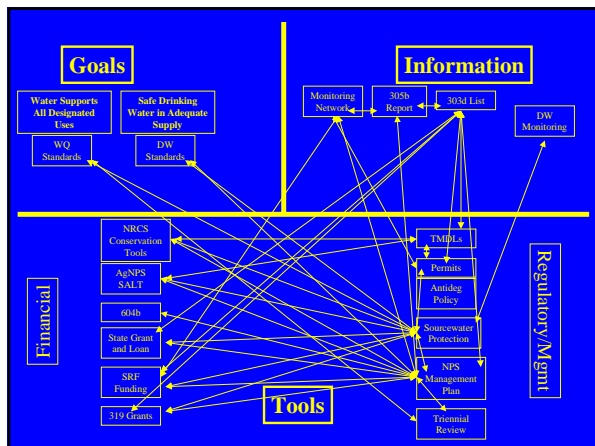
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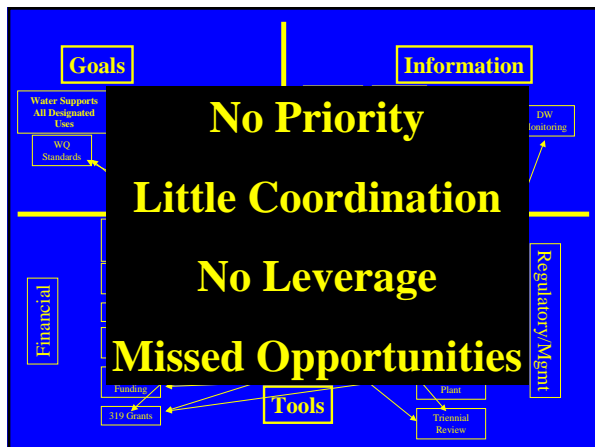
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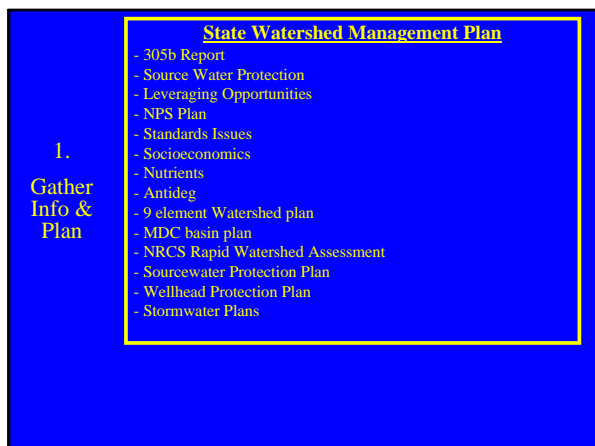
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2.  
Prioritize

Prioritize Watersheds

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3.  
Implement

Watershed Based Decision Making

- Permits
- SRF
- 319/604b
- Trading
- TMDL Implementation
- AgNPS
- NRCS

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## Why A Watershed Approach To Water Quality Decisions?

- prevent pollution
- achieve environmental improvements
- meet other goals important to the community.

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## Elements of Watershed Based Decision Making

- Collaborative Decisions
- Geographic Focus
- Sound Legal Mechanisms
- Good Data and Science, Biology, Engineering
- Enforceable, Accountable, Transferable, Measurable
- Incorporates Social & Economic Values

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## Who Has a Stake in Watershed Decisions?

- |                     |                           |
|---------------------|---------------------------|
| • State Agencies    | • Watershed Groups        |
| • Federal Agencies  | • Private Industry        |
| • Universities      | • Environmental Groups    |
| • Local Governments | • Residents               |
| • Local Business    | • Large-Tract Land Owners |
| • Public Utilities  | • Water Suppliers         |

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## Newer Approaches for watershed decision makers.

- Watershed Based Permitting
- Pollutant Credit Trading Markets

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## Eight Guiding Principles for Pollutant Credit Trading\*

1. Trades cannot produce effects that violate or adversely affect water quality standards, criteria, designated uses, or habitat.
2. Trading is only allowed if they are consistent with established trading guidelines.
3. The program must be consistent with laws and regulations, be flexible to accommodate changes, and enable participation of all potential sources.

\*Chesapeake Bay Water Quality Trading Partnership

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## Eight Principles for Trading (continued)

4. Nutrient Trading Program must be consistent with nutrient reduction goals and tributary strategies.
5. Trades must result in net reduction in loading.
6. Sources should implement reduction actions to achieve 40% of the reduction goal prior to pursuing a nutrient trading option.

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## Eight Principles for Trading (continued)

7. Traders must be in substantial compliance with laws, regulations, and programs.
8. Seek to involve diverse group of stakeholders in the design and implementation of state trading programs and education initiatives.

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## Watershed Based NPDES Permitting\*

- A process that addresses all stressors within a watershed, rather than addressing individual pollutant sources on a discharge-by-discharge basis.
- Considers watershed goals and stressors, including both point and nonpoint source contributions.
- The goal is to develop and issue NPDES permits that better protect entire watersheds.

\*Source: EPA

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## General Steps for Watershed Based Permitting

- Select a watershed and determine boundaries.
- Identify stakeholders and facilitate their participation.
- Assess water quality conditions of the watershed. Collect and analyze data for permit development.
- Develop watershed-based permit conditions and documentation.
- Issue watershed-based permit(s).
- Measure and report progress.

\*Source: EPA

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## Decision Making Considerations

- A Watershed Plan, (should contain foundation for the items below)
- Impairment(s)
- Priorities
- Available Data
- Stakeholders
- Means to Implement

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## Other Considerations

- PERMITS
- GRANTS
- TMDL
- COST SHARE
- INCENTIVE PROGRAMS
- LAND PURCHASE
- EASEMENTS
- REBUILDING INFRASTRUCTURE
- ORDINANCE AND POLICY CHANGES
- EDUCATION
- MARKETING
- LAWS AND REGULATIONS
- POLLUTANT TRADING
- ZONING

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## MAPS and GIS

- Topographic Maps
- Soil Surveys
- Aerial Photos
- National or Local Wetland Inventory
- Threaten and Endangered Inventory
- Current Land Use
- Zoning Maps
- Floodplain
- 303(D) Listed Segments
- Dischargers/ Source Protection

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## Hiding the Data

- State Agencies
- Federal Agencies
- Local Government
- Universities
- Utilities
- Local Water Groups

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## Hiding the Data

- Incomplete or inconsistent data sets
- Statistical validity or defensibility questions
- Privacy concerns - individuals or publications
- Static GIS mapping
- QA/QC Questions regarding collection, labs, analyses, GIS, etc.
- Incompatible units, format, data management differences

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## Hiding the Data

- **Inertia**

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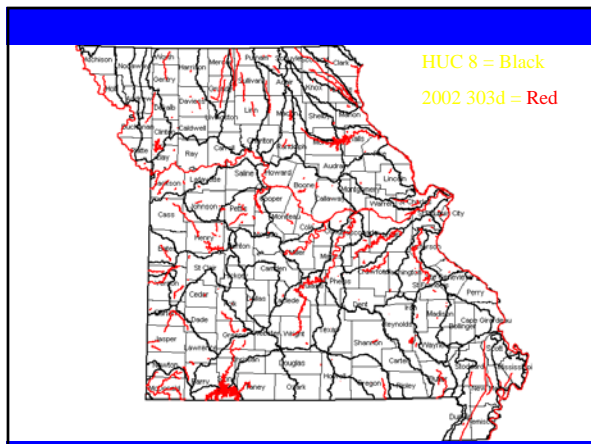
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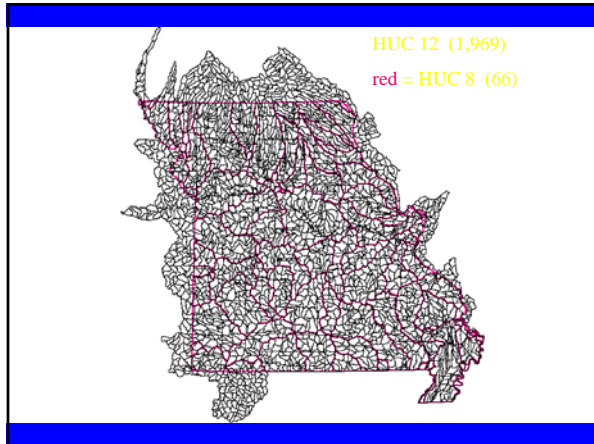
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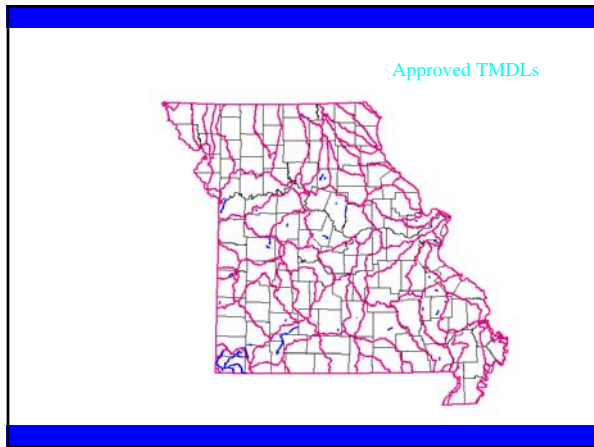
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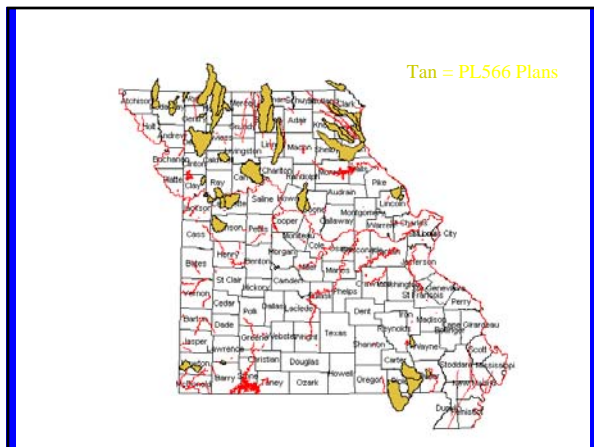
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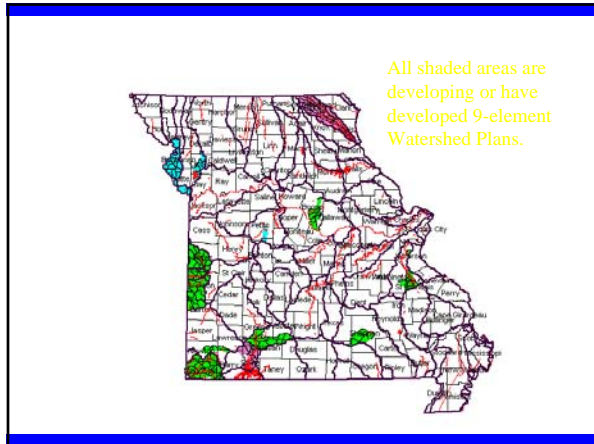
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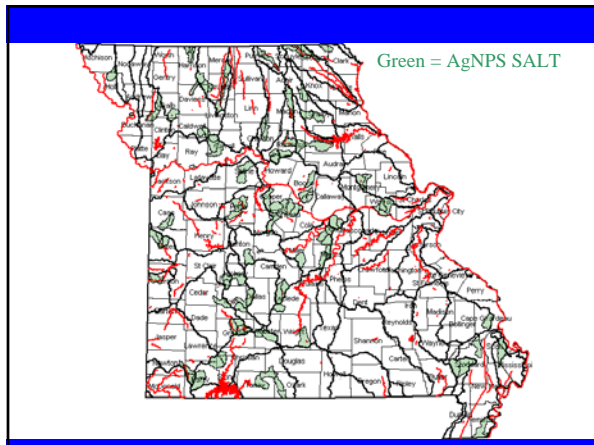
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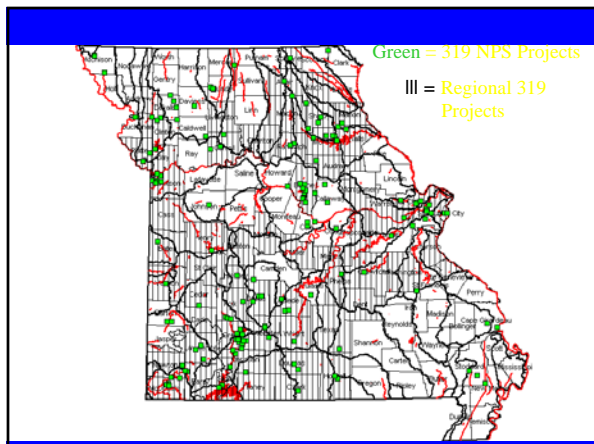
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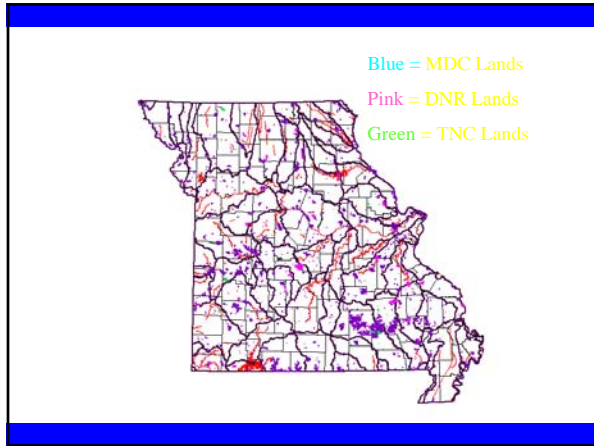
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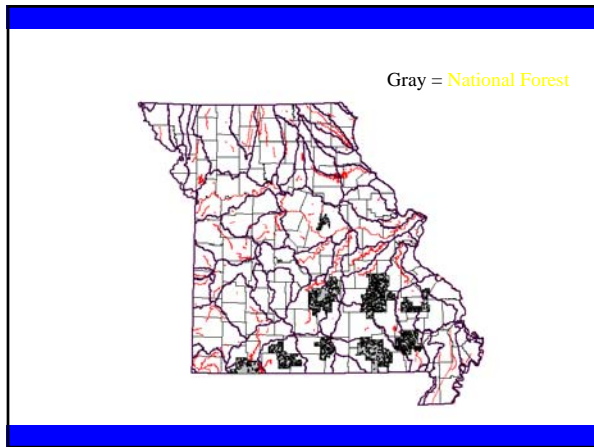
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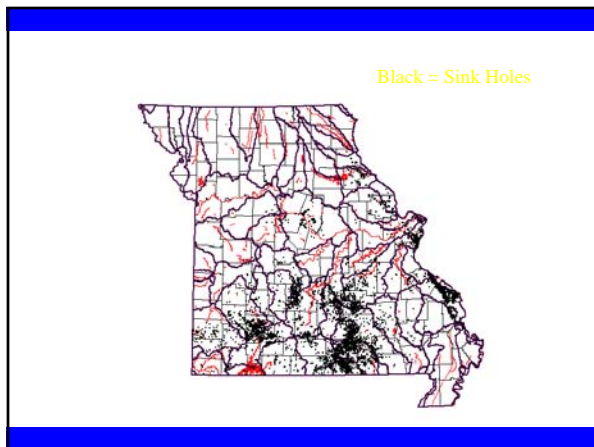
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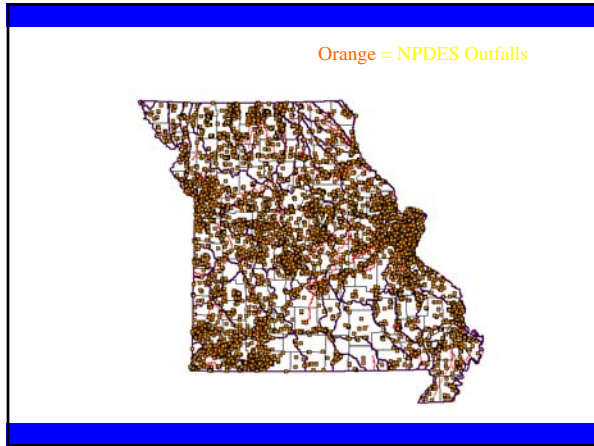
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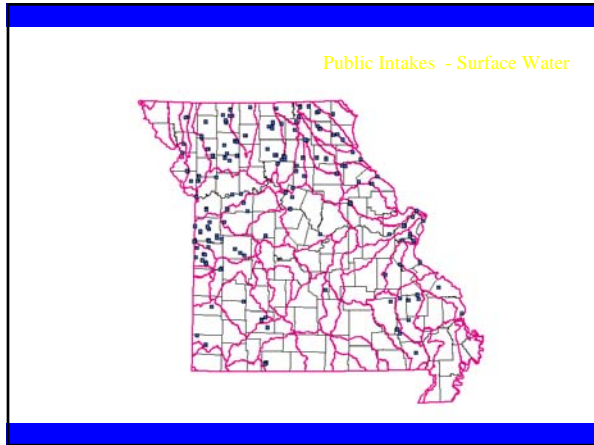
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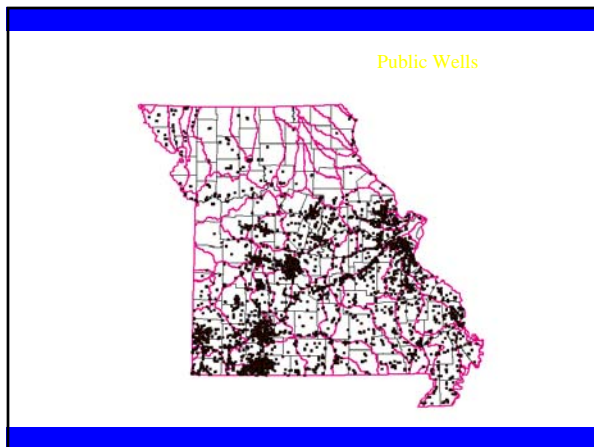
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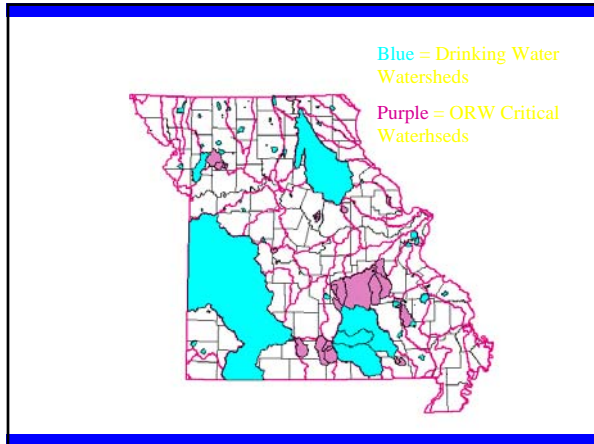
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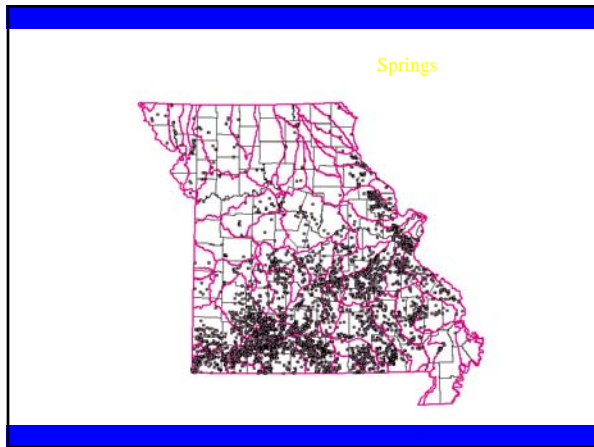
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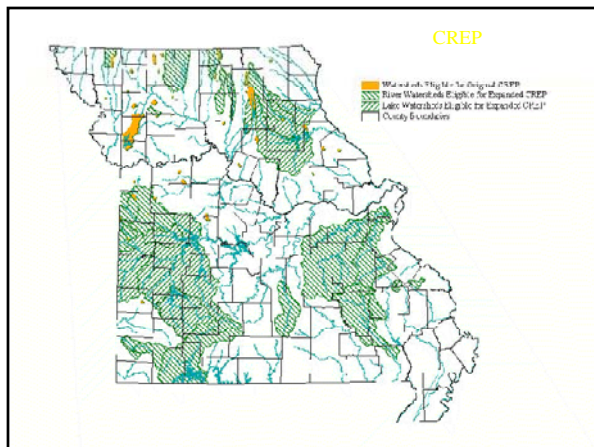
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